

THE SIZE OF HIGH SCHOOL AS A FACTOR IN COLLEGE SUCCESS

by

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## INTRODUCTION

There has been much controversy as to the relative standing in college of students graduating from high schools of different sizes. Parents have often made the statement that they would like to be able to send their children to a larger high school so as to give them better preparation for college. Others think the closer personal contacts in the smaller schools advantageous. It is important for the colleges to know from what size high schools their best students are coming. Is it necessary for the student to attend a large high school in order to be better prepared for college? Is the size of high school a factor in college success? From what size high school does the college get its best students?

## GATHERING OF DATA

In order to get data for this study it was necessary to go into the records of the registrar's office of the Kansas State College of Agriculture and Applied Science. First, a random sampling of the graduates was taken from the records. Ten graduates whose names began with each letter, A, B, C, etc., through the alphabet were selected with the exception of the letters, Q, U, X, Y, and Z, under which there were not ten graduates. The list was checked over and a few names were eliminated because of the lack of hours for graduation. The total list includes 206 graduates. Each of the students selected must have graduated from some Kansas high school and attended Kansas State College for all of his college work.

In addition to this list the names of thirty-four students whose names began with each letter, A, B, C, etc., through the alphabet were selected at random. These students may or may not have graduated from the Kansas State College, but must have graduated from some Kansas high school and attended the Kansas State College for all their work. In checking over the list selected several students were found who had taken some work at other colleges; twenty names were thus eliminated. These two lists of students numbered 1,070.

The general plan of this study is to give an accurate presentation of the original data collected and classified into statistical tables. An analysis and discussion accompanies each table.

The high schools were classified, not as the state has them classified, but according to the number enrolled in each high school. The Kansas Directory of 1930 gave the enrollments that were used.

Table I. Classification of Kansas High Schools

Classification	Enrollments	Examples
1	1--99	Keats--Riley
2	100--224	Highland Park--Nickerson
3	225--349	Sabetha--Holton
4	350--689	Clay Center--Concordia
5	700--999	Abilene--Junction City
6	1000--and over	Wichita--Topeka

The first group of schools studied is that of the small rural high school. In the 151 schools of this group the enrollment varies from five to ninety-eight. The average enrollment of the group is sixty-two. The teaching force of these schools varied from one to eight. The average number of teachers is five, thus each teacher in this group has an

average of twelve students. The principal is included in the teaching force, because he or she teaches several classes. This seems like a small group of students per teacher, but with so few teachers and a great many subjects to be taught there is very little time for personal supervision.

The second group includes high schools with enrollments from one hundred to two hundred twenty-four. In this group there are one hundred schools studied with an average enrollment of one hundred forty-three. The number of teachers ranges from four to fifteen, with an average of eight plus. Each teacher of this group has an average of eighteen students. With this many teachers each one would have fewer subjects but more students to teach.

The next group of twenty-six schools includes enrollments of two hundred twenty-five to three hundred forty-nine. The average enrollment of this group is two hundred sixty-six, with an average of fourteen teachers. This gives the teachers of this group an average of nineteen students.

The fourth group of twenty-one schools has an average enrollment of five hundred thirteen, with an average of twenty teachers. The average number of students would be twenty-six for each teacher.

The next group includes schools with an enrollment of seven hundred to nine hundred ninety-nine. There are nine

schools in this group with an average enrollment of eight hundred twenty-one, with an average of thirty-four teachers, or twenty-one students per teacher. In these larger schools the teachers have very few subjects to teach but more students in their classes.

The last group studied includes the largest high schools in the state with enrollments more than one thousand. Seventeen schools of this class were studied with an average enrollment of two thousand one hundred fifty-two, and an average of seventy-one teachers. The average number of students per teacher is thirty.

Table II. Data on Kansas High Schools as Classified

Group	Enrollment	Number Schools Studied	Number Students Studied	Average Enrollment	Average Number Teachers	Pupils Per Teacher
1	1-99	151	232	62	5	12
2	100-224	100	293	143	8	18
3	225-349	26	96	266	14	19
4	350-699	21	88	513	20	26
5	700-999	9	71	821	34	21
6	1000 and over	17	240	2152	71	30



Having gathered all grades recorded in the registrar's office for each student in the list, the next step was to calculate a scholarship index for each.

The Kansas State College uses the following system of grading:

A--excellent

B--good

C--medium

D--poor

F--failure

To calculate the index an hour's credit with an A grade was given a weight of 5, B-4, C-3, D-2, and 1 point for each hour of failing or incomplete work. The total number of points gained from all the hours of work was then divided by the number of hours which the student had carried or attempted to carry. This gave a weighted score of somewhere from 1 to 5, according to the kind of work done, thus giving the scholarship index for each student in the list. All of the tabulations were made from this scholarship index, such as the mean, median, standard deviation, quartile rankings and the probable error.

#### THE GRADUATE GROUPS

The graduate groups are studied first. This group is



composed of graduates of the Kansas State College who have come to the college from the various sized high schools of Kansas. The number in this group studied is two hundred six.

Table III. Results of Group IA (enrollment 1-99)

Scholarship Index	Frequency	Measures of Central Tendency and Measures of Dispersion	
4.50 - 5.00	0	Mean	3.51 ±.040
4.00 - 4.50	13	Median	3.44 ±.051
3.50 - 4.00	13	S. D.	.46 ±.028
3.00 - 3.50	23	Q <sub>3</sub>	3.93
2.50 - 3.00	5	Q <sub>1</sub>	3.17
2.00 - 2.50	0	Q. D.	.38
1.50 - 2.00	0		
1.00 - 1.50	0		
Total	59		

Group IA consists of students who have graduated from the small rural high schools of Kansas and have completed their college work at the Kansas State College. The mean for this group is 3.51 and ranks second in comparison with the other groups of graduates.

Table IV. Results of Group 2A (enrollment 100-224)

Scholarship Index	Frequency	Measures of Central Tendency and Measures of Dispersion	
4.50 - 5.00	2	Mean	3.55 ± .058
4.00 - 4.50	12	Median	3.59 ± .072
3.50 - 4.00	14	S. D.	.61 ± .041
3.00 - 3.50	11	Q <sub>3</sub>	4.052
2.50 - 3.00	11	Q <sub>1</sub>	3.341
2.00 - 2.50	1	Q. D.	.355
1.50 - 2.00	0		
1.00 - 1.50	0		
Total	59		

This group consists of students who have graduated from Kansas high schools with enrollments of 100 to 224 and have completed four years of college work at the Kansas State College. The average mean of all graduate students studied is 3.34. The mean for this group is 3.55.

Table V. Results of Group 3A (enrollment 225-349)

Scholarship Index	Frequency	Measures of Central Tendency and Measures of Dispersion	
4.50 - 5.00	1	Mean	3.50 $\pm 128$
4.00 - 4.50	1	Median	3.28 $\pm 161$
3.50 - 4.00	4	S. D.	.57 $\pm 091$
3.00 - 3.50	8	Q <sub>3</sub>	3.66
2.50 - 3.00	4	Q <sub>1</sub>	2.97
2.00 - 2.50	1	Q. D.	.34
1.50 - 2.00	0		
1.00 - 1.50	<u>0</u>		
Total	19		

The graduate students in Group 3A are from high schools of enrollments from 225 to 349. The mean of this group is 3.50 and ranks fourth in the comparison of all the graduate groups.

Table VI. Results of Group 4A (enrollment 350-699)

Scholarship Index	Frequency	Measures of Central Tendency and Measures of Dispersion	
4.50 - 5.00	1	Mean	3.20 $\pm$ .50
5.00 - 4.50	1	Median	2.97 $\pm$ .188
3.50 - 4.00	2	S. D.	.59 $\pm$ .106
3.00 - 3.50	4	Q <sub>3</sub>	3.47
2.50 - 3.00	9	Q <sub>1</sub>	2.77
2.00 - 2.50	0	Q. D.	.37
1.50 - 2.00	0		
1.00 - 1.50	<u>0</u>		
Total	17		

This group consists of graduates from the Kansas State College who received their training from high schools of enrollments from 350 to 699. This group ranks last, or sixth, in the comparison of the means. However, this does not signify that students from this size schools do not do average work in college.

Table VII. Results of Group 5A (enrollment 700-999)

Scholarship Index	Frequency	Measures of Central Tendency and Measures of Dispersion	
4.50 - 5.00	0	Mean	3.42 $\pm$ .135
4.00 - 4.50	1	Median	3.49 $\pm$ .169
3.50 - 4.00	7	S. D.	.49 $\pm$ .095
3.00 - 3.50	3	Q <sub>3</sub>	3.79
2.50 - 3.00	5	Q <sub>1</sub>	2.90
2.00 - 2.50	0	Q. D.	.44
1.50 - 2.00	0		
1.00 - 1.50	<u>0</u>		
Total	16		

The graduate students in Group 5A are from high schools of enrollments of 700 to 999. The mean is 3.42 and ranks third in the group of graduates.

Table VIII. Results of Group 6A (enrollment 1000 and over)

Scholarship Index	Frequency	Measures of Central Tendency and Measures of Dispersion	
		4.50 - 5.00	0
4.00 - 4.50	2	Median	3.22 $\pm$ 0.061
3.50 - 4.00	10	S. D.	.48 $\pm$ 0.035
3.00 - 3.50	18	Q <sub>3</sub>	3.55
2.50 - 3.00	11	Q <sub>1</sub>	2.66
2.00 - 2.50	3	Q. D.	.34
1.50 - 2.00	0		
1.00 - 1.50	0		
Total	44		

The graduate students in this group consist of those who have attended the largest high schools in Kansas. The mean for this group is 3.24 and ranks fifth in the comparison of the means.

Table IX. Ranking of the Graduate Groups in the Comparison of the Measures of Central Tendency and Measures of Dispersion

	Average	Group 1A 1-99	Group 2A 100-224	Group 3A 225-349	Group 4A 350-699	Group 5A 700-999	Group 6A 1000 & over
Mean	3.34±.029	3.51±.040	3.55±.058	3.30±.128	3.20±.150	3.42±.135	3.24±.049
Median	3.35±.032	3.44±.061	3.59±.072	3.28±.161	2.97±.188	3.50±.169	3.22±.061
S. D.	.55±.018	.46±.029	.61±.041	.57±.091	.59±.106	.49±.095	.48±.035
Q <sub>3</sub>	3.82	3.93	4.05	3.66	3.47	3.79	3.55
Q <sub>1</sub>	3.10	3.17	3.41	2.97	2.73	2.90	2.86
Q. D.	.36	.36	.35	.34	.37	.44	.34





Figure I. Percent in each group above and below the average median for the Graduate Groups.

### Conclusions

In these groups of graduates from the various high schools there is a slight difference in the mean and median of each. The probable error of each is so small that it need not be taken into consideration. As noticed in Table IX Group 2A ranks first with the highest mean. This group has the largest standard deviation which is .61. In this group the grades are scattered over the entire range.

The second in mean and median is Group 1A, with a mean of 5.51. This group has the smallest deviation of all the graduate groups; that is, the grades in this group are more compact and less scattered.

Group 5A ranks third in the mean and third in standard deviation. This S. D. is lower than the average for all the graduate groups. This shows that the grades are very nearly the same; there is less variation in the scholarship indexes of this group.

The fourth in mean is Group 3A, and this is a little below the average mean of all the groups. This group ranks fourth in standard deviation.

The large high schools, or Group 6A, rank fifth in the mean and second in the deviation. This means that the

graduates from the large high schools have not made as high marks in their college work as the ones from the smaller high schools, but their marks are not so varied in the range of the scholarship indexes.

Group 4A ranks sixth in mean, with a rather large variation in the standard deviation, ranking fifth.

#### THE MISCELLANEOUS GROUPS

The miscellaneous group of students was studied next. This group is composed of Kansas high school graduates who have entered the Kansas State College and taken all their work in this college. Some of the students are graduates, while others left college for various reasons. The same classification of high schools was used for the miscellaneous group as for the graduates. The capital letter "B" refers to the miscellaneous group. The following tables show the scholarship index, frequency distribution, measures of central tendency, and measures of dispersion.

Table X. Results of Group 1B (enrollment 1-99)

Scholarship Index	Frequency	Measures of Central Tendency and Measures of Dispersion
4.50 - 5.00	2	Mean 2.77 $\pm$ .036
4.00 - 4.50	14	Median 2.78 $\pm$ .345
3.50 - 4.00	25	S. D. .60 $\pm$ .026
3.00 - 3.50	47	Q <sub>3</sub> 3.34
2.50 - 3.00	54	Q <sub>1</sub> 2.19
2.00 - 2.50	40	Q. D. .56
1.50 - 2.00	28	
1.00 - 1.50	<u>12</u>	
Total	223	

Group 1B consists of students who have graduated from the small rural high schools of Kansas and have entered the Kansas State College. This group may or may not have graduated from Kansas State College, but must have taken all their work there. Group 1B ranks a little below the average mean and median for all miscellaneous students.

Table XI. Results of Group 2B (enrollment 100-224)

Scholarship Index	Frequency	Measures of Central Tendency and Measures of Dispersion	
4.50 - 5.00	4	Mean	2.87 ±.038
4.00 - 4.50	16	Median	2.89 ±.047
3.50 - 4.00	58	S. D.	.87 ±.027
3.00 - 3.50	57	Q <sub>3</sub>	3.48
2.50 - 3.00	47	Q <sub>1</sub>	2.27
2.00 - 2.50	43	Q. D.	.60
1.50 - 2.00	26		
1.00 - 1.50	<u>11</u>		
Total	242		

This group of miscellaneous students is composed of graduates from high schools of enrollments from 100 to 224. The mean for this group is 2.87, which is above the average for all the groups. This group of schools ranks third in mean.

Table XII. Results of Group 3B (enrollment 225-349)

Scholarship Index	Frequency	Measures of Central Tendency and Measures of Dispersion	
4.50 - 5.00	1	Mean	2.78 $\pm$ .064
4.00 - 4.50	2	Median	2.77 $\pm$ .080
3.50 - 4.00	10	S. D.	.83 $\pm$ .045
3.00 - 3.50	15	Q <sub>3</sub>	3.29
2.50 - 3.00	23	Q <sub>1</sub>	2.29
2.00 - 2.50	16	Q. D.	.50
1.50 - 2.00	6		
1.00 - 1.50	<u>4</u>		
Total	77		

Group 3B includes all students who have graduated from high schools of 225 to 349 enrollments. The mean of this group is 2.78 and is below the average for all miscellaneous students.

Table XIII. Results of Group 4B (enrollment 250-699)

Scholarship Index	Frequency	Measures of Central Tendency and Measures of Dispersion	
4.50 - 5.00	0	Mean	2.93 $\pm$ .062
4.00 - 4.50	4	Median	3.01 $\pm$ .077
3.50 - 4.00	13	S. D.	.77 $\pm$ .044
3.00 - 3.50	19	Q <sub>3</sub>	3.48
2.50 - 3.00	14	Q <sub>1</sub>	2.58
2.00 - 2.50	14	Q. D.	.55
1.50 - 2.00	2		
1.00 - 1.50	<u>5</u>		
Total	71		

This group consists of graduates from high schools of enrollments from 350 to 699. The mean of this group is 2.93 and is higher than the average for the miscellaneous groups. Group 4B ranks second in the comparison of the mean with the other groups.



Table XIV. Results of Group 5B (enrollment 700-999)

Scholarship Index	Frequency	Measures of Central Tendency and Measures of Dispersion	
4.50 - 5.00	1	Mean	2.80 ±.062
4.00 - 4.50	2	Median	2.75 ±.077
3.50 - 4.00	6	S. D.	.68 ±.044
3.00 - 3.50	8	Q <sub>3</sub>	3.21
2.50 - 3.00	21	Q <sub>1</sub>	2.41
2.00 - 2.50	12	Q. D.	
1.50 - 2.00	4		
1.00 - 1.50	<u>1</u>		
Total	55		

This table consists of a group of students who have graduated from high schools with an enrollment of 700 to 999. They may or may not have graduated from the Kansas State College, but must have done all their work there. The mean of this group is 2.80. This is .05 of a point below the average mean for all miscellaneous students.

Table XV. Results of Group 6B (enrollment 1000 and over)

Scholarship Index	Frequency	Measures of Central Tendency and Measures of Dispersion	
4.50 - 5.00	3	Mean	2.95 $\pm$ .038
4.00 - 4.50	17	Median	2.97 $\pm$ .047
3.50 - 4.00	24	S. D.	.79 $\pm$ .027
3.00 - 3.50	51	Q <sub>3</sub>	3.45
2.50 - 3.00	46	Q <sub>1</sub>	2.40
2.00 - 2.50	30	Q. D.	.53
1.50 - 2.00	20		
1.00 - 1.50	<u>5</u>		
Total	196		

This group consists of students from the largest high schools in Kansas. The graduates of these high schools have a mean of 2.95 in their college work. This is the best mean of all the miscellaneous groups and ranks first.

Table XVI. Ranking of the Miscellaneous Groups in Comparison of the Measures of Central Tendency and Measures of Dispersion

	Average	Group 1B 1-99	Group 2B 100-224	Group 3B 225-349	Group 4B 350-699	Group 5B 700-999	Group 6B 1000 & over
Mean	2.65±.018	2.77±.036	2.67±.036	2.76±.063	2.93±.061	2.90±.062	2.95±.058
Median	2.66±.023	2.76±.045	2.69±.047	2.77±.080	3.01±.077	2.75±.077	2.97±.047
S. D.	.79±.013	.79±.026	.87±.027	.83±.045	.77±.044	.68±.044	.78±.027
Q <sub>3</sub>	3.42	3.34	3.48	3.29	3.48	3.21	3.45
Q <sub>1</sub>	2.50	2.19	2.27	2.29	2.58	2.41	2.40
Number of Students	144	223	242	77	71	55	196
Number of Graduates	42	57	66	20	21	14	71
Per cent of Graduates	29	26	27	26	30	25	36

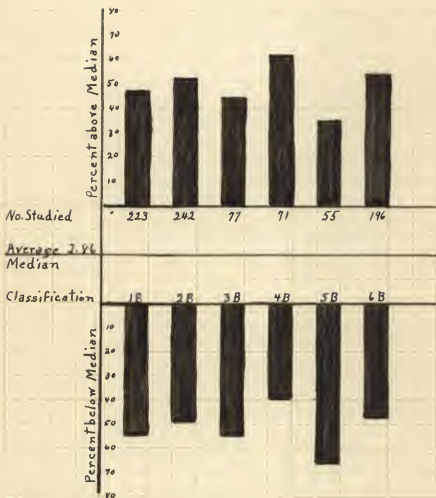


Figure 2. Percent in each group above and below the average median for the Miscellaneous Groups.

### Conclusions

The miscellaneous groups "B" consist of Kansas high school graduates who have entered the Kansas State College and either graduated or dropped out for various reasons. The average mean of these groups was found to be 2.85, and the median 2.86. The probable error of both is very slight.

The average standard deviation of these groups is .79, while the lowest of the groups is .63. This was of Group 5B and it has less deviation and more homogeneity than any other of the miscellaneous groups.

The largest high schools of Kansas that are represented by students in Group 6B were found to have the highest mean, also a larger proportion of this group graduated from the Kansas State College than any other group. This group ranks third in the standard deviation.

When all the schools of the state are taken into consideration, it is evident from Table XVI that a larger per cent of the students who enter this college from the large high schools of the state, those with enrollments of 1000 or more, graduate from college. Groups 4B and 2B rank second and third respectively. The average for the entire group of schools is 28 per cent. The large high schools

have the advantage over the smaller schools in that the systems of the large schools are more like those of the college, and the students entering know better how to adjust themselves. It takes the students coming from the small schools more time to make the adjustment.

Group 4B, students that come from high schools of 350 to 699 enrollments, ranked second in the mean and second in the measures of dispersion.

The third place in the comparison ranking is Group 2B with a mean of 2.87. This group is sixth in the comparison of the standard deviation.

Group 5B ranks fourth in the comparison of the mean. This group consists of students from high schools with enrollments of 700 to 999. This group ranks first in the standard deviation comparison. The mean is below the average for the miscellaneous groups, but the deviation is much less than the average standard deviation.

The fifth place of comparison is Group 3B. This group consists of students from the high schools with enrollments from 225 to 349. Group 3B also ranks fifth in the standard deviation of the various miscellaneous groups.

Group 1B, students from the small rural high schools, has a mean of 2.77 and ranks sixth. This group ranks fourth in the comparison of the standard deviation.

In these groups the writer finds, when the standard

deviation is low, that the quartile deviation is also low. The different measures of dispersion show about the same deviation and distribution.

The writer has found that the larger high schools with the larger classes have the best average in marks. This bears out the findings of D. A. Bates in his thesis found in Bulletin 24, Department of Secondary School Principals of the National Education Association. He finds that the large classes have a decided advantage:

1. More attentive
2. More alert
3. Marked superiority
4. More effective methods used

#### THE COMBINED GROUPS

In this part of the study a larger sampling is studied. It includes 1070 students. This group is composed of all the graduates of part one, also all the miscellaneous groups of part two. The same classification of high schools was used for this group as was used in the other two. The capital letter "C" refers to this part; and the mean, median, standard deviation, quartiles, and the quartile deviation were worked out for this group.

The following tables show the scholarship index, frequency distribution, measure of central tendency, and measure of dispersion.



Table XVII. Results of Group 1C (enrollment 1-99)

Scholarship Index	Frequency	Measures of Central Tendency and Measures of Dispersion	
4.50 - 5.00	2	Mean	2.94 $\pm$ .032
4.00 - 4.50	27	Median	3.01 $\pm$ .039
3.50 - 4.00	38	S. D.	.60 $\pm$ .023
3.00 - 3.50	75	Q <sub>3</sub>	3.48
2.50 - 3.00	59	Q <sub>1</sub>	2.37
2.00 - 2.50	41	Q. D.	.55
1.50 - 2.00	23		
1.00 - 1.50	<u>12</u>		
Total	282		

In this group, there are students from the rural high schools of Kansas that have attended college and some have graduated. It is the combined group of 1A and 1B. These groups should give more reliable information because of more samples.

The average mean of these groups is 2.97, which is almost the college standard of work. Group 1C ranks fourth in comparison with the other groups in mean.

Table XVIII. Results of Group 2C (enrollment 100-224)

Scholarship Index	Frequency	Measures of Central Tendency and Measures of Dispersion	
4.50 - 5.00	6	Mean	3.01 $\pm$ .032
4.00 - 4.50	28	Median	3.03 $\pm$ .040
3.50 - 4.00	52	S. D.	.82 $\pm$ .023
3.00 - 3.50	68	Q <sub>3</sub>	3.63
2.50 - 3.00	58	Q <sub>1</sub>	2.41
2.00 - 2.50	44	Q. D.	.61
1.50 - 2.00	26		
1.00 - 1.50	<u>11</u>		
Total	293		

Group 2C consists of Group 2A and Group 2B from the high schools with enrollments from 100 to 224. This group has a mean of 3.01, which is the highest for all the "C" groups.

Table XIX. Results of Group 3C (enrollment 225-349)

Scholarship Index	Frequency	Measures of Central Tendency and Measures of Dispersion	
4.50 - 5.00	2	Mean	2.89 ±.051
4.00 - 4.50	3	Median	2.89 ±.064
3.50 - 4.00	14	S. D.	.74 ±.036
3.00 - 3.50	23	Q <sub>3</sub>	3.39
2.50 - 3.00	27	Q <sub>1</sub>	2.41
2.00 - 2.50	17	Q. D.	.49
1.50 - 2.00	6		
1.00 - 1.50	<u>4</u>		
Total	96		

In this group there are students from high schools with enrollments from 225 to 349. This includes 3A and 3B. The mean for this group is 2.89, which is the lowest of all "C" groups.

Table XI. Results of Group 4C (enrollment 350-699)

Scholarship Index	Frequency	Measures of Central Tendency and Measures of Dispersion	
4.50 - 5.00	1	Mean	2.98 $\pm$ .054
4.00 - 4.50	6	Median	3.00 $\pm$ .066
3.50 - 4.00	14	S. D.	.75 $\pm$ .038
3.00 - 3.50	23	Q <sub>3</sub>	3.48
2.50 - 3.00	23	Q <sub>1</sub>	2.52
2.00 - 2.50	14	Q. D.	.48
1.50 - 2.00	2		
1.00 - 1.50	<u>5</u>		
Total	88		

In Table XI we find the results of students who have graduated from high schools with enrollments of 350 to 699. This group includes both graduate groups and miscellaneous groups, so we expect our most reliable results from this part of the study. The mean of Group 4C is 2.98 and is .01 of a point above the average mean for all students studied.

Table XXI. Results of Group 5C (enrollment 700-999)

Scholarship Index	Frequency	Measures of Central Tendency and Measures of Dispersion	
4.50 - 5.00	1	Mean	2.94 $\pm$ .054
4.00 - 4.50	3	Median	2.86 $\pm$ .068
3.50 - 4.00	13	S. D.	.68 $\pm$ .038
3.00 - 3.50	11	Q <sub>3</sub>	3.47
2.50 - 3.00	26	Q <sub>1</sub>	2.52
2.00 - 2.50	12	Q. D.	.48
1.50 - 2.00	4		
1.00 - 1.50	<u>1</u>		
Total	71		

Group 5C consists of students who have graduated from high schools with enrollments of 700 to 999. There were 71 students studied in this group and the mean is 2.94, which is .03 of a point below the average mean for all students studied.

Table XXII. Results of Group 6C (enrollment 1000 and over)

Scholarship Index	Frequency	Measures of Central Tendency and Measures of Dispersion	
4.50 - 5.00	3	Mean	3.00 $\pm$ .032
4.00 - 4.50	19	Median	3.04 $\pm$ .040
3.50 - 4.00	34	S. D.	.75 $\pm$ .023
3.00 - 3.50	69	Q <sub>3</sub>	3.47
2.50 - 3.00	57	Q <sub>1</sub>	2.52
2.00 - 2.50	33	Q. D.	.48
1.50 - 2.00	20		
1.00 - 1.50	<u>5</u>		
Total	240		

In the preceding table we find the results of a study made of students who have graduated from the largest high schools in Kansas. We find a mean of 3.00, which is .05 of a point above the average mean for all students studied.

Table XXIII. Ranking of the Combined Groups of the Graduates and Miscellaneous Students in Comparison of the Measures of Central Tendency and Measures of Dispersion

	Average	Group 1G 1-99	Group 2G 100-224	Group 3G 225-349	Group 4G 350-599	Group 5G 700-999	Group 6C 1000 & over
Mean	2.97±.016	2.94±.032	3.01±.032	2.89±.051	2.98±.054	2.94±.054	3.00±.032
Median	3.00±.020	3.01±.039	3.03±.040	2.89±.064	3.00±.068	2.86±.068	3.04±.040
S. D.	.78±.011	.80±.023	.82±.023	.74±.036	.75±.038	.68±.038	.74±.023
Q <sub>3</sub>	3.49	3.48	3.63	3.39	3.48	3.47	3.47
Q <sub>1</sub>	2.45	2.37	2.41	2.41	2.52	2.52	2.52
Q. D.	.52	.55	.61	.49	.48	.48	.48



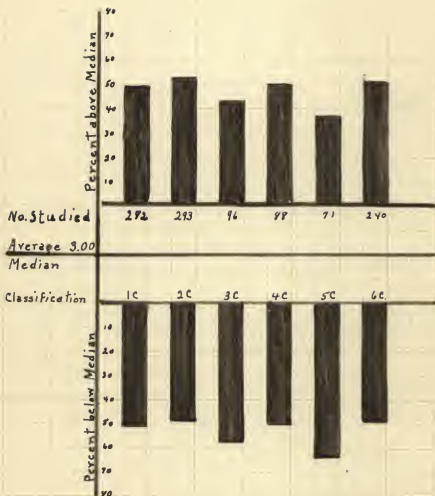


Figure 3. Percent in each group above and below the average median for the combined groups of Graduates and Miscellaneous students.

### Conclusions

The "C" group, all the students studied, includes the graduate and the miscellaneous groups. This group should give the best results and the most reliable information because of more samples. The mean and median of these groups is very close and shows there is not much of a difference in the mean and median of all the students studied from the various high schools of Kansas. The rankings of the measures of central tendency and measures of dispersion are as follows:

Group 2C ranks first in the comparison of the mean and sixth in deviation. Throughout the study it has been found that the "2" groups, the schools with an enrollment of 100 to 224, have had the largest range of deviation.

Group 6C ranks second in the comparison of the mean and also second in the comparison of the standard deviation. Group 3C ties with this group in the standard deviation.

The next, third in rank, is Group 4C. This group ranks fourth in the comparison of the standard deviation.

Group 5C ranks fifth in the comparison of the means and first in the standard deviation. In this group there is less deviation and more homogeneity than in any of the other

"C" groups.

Group 3C ranks last, sixth, in this comparison of the means and ties with Group 6C for second place in the comparison of the deviations.

The quartile rankings measure the variability of the groups when arranged in the frequency distribution as the preceding tables have shown. Quartile deviation means the middle 50 per cent, and the mean and median are in that range. The quartile deviation of all the students studied is .52. The lowest is .48 and three groups, 4C, 5C, and 6C, have this low Q. D. These same groups have the lowest standard deviation.

#### GENERAL CONCLUSIONS

1. The small rural high school has the smallest number of students per teacher.
2. The largest high schools of Kansas, those with enrollments of one thousand or more, have the largest number of pupils per teacher.
3. In comparison with other schools of the state a larger per cent of the students who enter from the large schools, those with enrollments of one thousand or more, graduate from this college.
4. The grades or marks made by the students coming from the

large schools cover less of the range or show more homogeneity than those of students coming from other size schools.

5. The results of this study indicate that the size of high school is not a significant factor in college success.

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